

Odborné články

Šklíba J, Lövy M, Burda H, **R Šumbera**. Variability of space-use patterns in a free living eusocial subterranean rodent, Ansell's mole-rat indicates age-based rather than caste polyethism
Scientific Reports (in press)

Bryja J, **Šumbera R**, Peterhans JCK, Aghová T, Bryjová A, Mikula O, Nicolas V, Denys C, E. Verheyen Evolutionary history of the Thicket rats (genus *Grammomys*) mirrors the evolution of African forests since late Miocene
Journal of Biogeography
(
in press
).

Šklíba J, Vlasatá T, Lövy M, Hrouzková E, Meheretu Y, Sillero-Zubiri C, **Šumbera R**. Impact of the giant root-rat (*Tachyoryctes macrocephalus*) on the Afroalpine ecosystem.
Integrative Zoology
(in press).

2016

Mikula O, **Šumbera R**, Aghová T, Mbau J, Bryja J (2016) Evolutionary history and species diversity of African Pouched Mice of the genus *Saccostomus* (Rodentia: Nesomyidae: Cricetomyinae)
Zoologica Scripta 45(6): 595-617.

Dvořáková V, Hrouzková E, **Šumbera R** (2016) Vocal repertoire of the social Mashona mole-rat (*Fukomys darlingi*) and how it compares with other mole-rats
Bioacoustics 25(3): 253-266.

Gryseels S, Goüy de Bellocq J, Makundi R, Vanmechelen K, Broeckhove J, Mazoch V, Šumbera R
Zima J jr., Leirs H and Baird
SJE (2016) Genetic distinction between contiguous urban and rural multimammate mice in Tanzania despite gene flow
Journal of Evolutionary Biology
29(10): 1952-1967.

Šklíba J, Lövy M, Koeppen SCW, Pleštilová L, Vitámvás M, Nevo E, Šumbera R (2016) Activity of free-living subterranean blind mole rats *Spalax galili* (Rodentia: Spalacidae) in an area of supposed sympatric speciation.
Biological Journal of Linnean Society
118: 280-291.

Šklíba J, Jirků M, R Šumbera (2016) Burrow systems of mole-rats as refuges for frogs in the miombo woodlands of southeast Africa.
Journal of Tropical Ecology
32(2): 158-161.

Kott O, Němec P, Fremlová A, Mazoch V, Šumbera R (2016) Behavioural tests reveal severe visual deficits in the strictly subterranean African mole-rats (Bathyergidae) but efficient vision in the fossorial rodent coruro (*Spalacopus cyanus*, Octodontidae)
Ethology
122(8): 682-694.

Gomes Rodrigues H, Šumbera R, Hautier L (2016) Life in burrows channelled the morphological evolution of the skulls in rodents: the case of African mole-rats (Bathyergidae, Rodentia),
Journal of Mammalian Evolution 23(2): 175-189.

Tučková V, Čížková B, Šumbera R (2016) Alloparental behaviour in Sinai spiny mice *Acomys dimidiatus*: A case of misdirected parental care? for Behavioral Ecology and Sociobiology.
Behavioural Ecology and Sociobiology
70(3): 437-447.

Pleštilová L, Hrouzková E, Burda H, R Šumbera (2016) Does the morphology of the ear of the Chinese bamboo rat (*Rhizomys sinensis*) show 'subterranean' characteristics? *Journal of Morphology* 277(5): 275-284.

2015

Bohoussou KH, Cornette R, Akpatou B, Colyn M, Peterhans JK, Kennis J, Šumbera R, Verheyen E, N'Goran E, Katuala P, V Nicolas (2015) The phylogeography of the rodent genus *Malacomys* suggests multiple Afrotropical Pleistocene lowland forest refugia. *Journal of Biogeography* 42(11): 2049-2061.

McDonough MM, Šumbera R, Mazoch V, Ferguson AW, Phillips CD, J Bryja (2015): Multilocus phylogeography of a widespread savanna-woodland adapted rodent reveals the influence of Pleistocene geomorphology and climate change in Africa's Zambezi region *Molecular Ecology* 24(20): 5248-5266.

Gomes Rodrigues H., Šumbera R: Dental peculiarities in the silvery mole-rat: an original model for studying the evolutionary and biological origins of continuous dental generation in mammals PeerJ N. 3, n. e1233

Lövy M, Šklíba J, Hrouzková E, Dvořáková V, Nevo E, R Šumbera (2015) Habitat and burrow system characteristics of two abutting populations of the blind mole rat *Spalax galili* likely subjected to sympatric speciation. *PLOSOne* 10(7): e0133157.

Kaňuch P, Aghová T, Meheretu Y, Šumbera R, J Bryja (2015) New discoveries on the ecology and echolocation of the heart-nosed bat *Cardioderma cor* with a contribution to the phylogeny of Megadermatidae

African Zoology
50(1):53-57.

Meheretu Y., Šumbera R., J Bryja (2015) Enigmatic Ethiopian endemic rodent *Muriculus imberbis* (Rüppell 1842) represents a separate lineage within genus *Mus*.

Mammalia
79(1):15-23.

Okrouhlík J, Burda H, Kunc P, Knížková I, R Šumbera (2015) Surprisingly low risk of overheating during digging in two subterranean rodents
Physiology and Behaviour
138:236-241.

2014

Bryja J, Mikula O, Šumbera R, Meheretu Y, Aghová T, Lavrenchenko LA, Mazoch V, Oguge N, Mbau JS, Welegerima K, Amundala N, Colyn M, Leirs H, E Verheyen (2014) Pan-African phylogeny of *Mus* (subgenus *Nannomys*) reveals one of the most successful mammal radiations in Africa.
BMC Evolutionary Biology

Fang X, Seim I, Huang Z, Gerashchenko MV, Xiong Z, Turanov AA, Zhu Y, Lobanov AV, Fan D, Yim SH, Yao X, Ma S, Yang L, Lee SG, Kim EB, Bronson RT, Šumbera R, Buffenstein R, Zhou X, Krogh A, Park TJ, Zhang G, Wang J, VN Gladyshev (2014) Adaptations to a Subterranean Environment and Longevity revealed by the Analysis of Mole Rat Genomes.
Cell Reports
8, 1–11.

Kott O, Moritz RE, **Šumbera R**, Burda H, P Němec (2014) Light propagation in burrows of subterranean rodents: tunnel system architecture but not photoreceptor sensitivity limits light sensation range. *Journal of Zoology* 294: 68–76.

Šklíba J, Lövy M, Hrouzková E, Kott O, Okrouhlík J, **R Šumbera** (2014) Social and environmental influences on daily activity pattern in free-living subterranean rodents. The case of a eusocial bathyergid. *Journal of Rhythm Research* 29(3): 203–214.

Bryja J, Mikula O, Patzenhauerová H, Oguge N, **Šumbera R**, Verheyen E. (2014) The role of dispersal and vicariance in the Pleistocene history of an East African mountain rodent, *Praomys delectorum*. *Journal of Biogeography* 41(1): 196-208

2013

Patzenhauerová H, Šklíba J, Bryja J, **R Šumbera** (2013) Parentage analysis of Ansell's mole-rat family groups indicates a high reproductive skew despite relatively relaxed ecological constraints on dispersal. *Molecular Ecology* 22(19): 4988-5000

Hrouzková E, Dvořáková V, Jedlička P, **R Šumbera** (2013) Seismic communication in Demon African mole rat *Tachyoryctes daemon* from Tanzania. *Journal of Ethology* : 31(3): 255-259.

Hadid Y, Tzur S, Pavlicek T, **Šumbera R**, Šklíba J, Lövy M, Fragman-Sapir O, Beiles A, Arieli R, Raz S, E Nevo (2013) Possible incipient sympatric ecological speciation in blind mole rats (*Spalax*) *Proceedings of the National Academy of Sciences* 110(7):2587-92

Lövy M, Šklíba J, **R Šumbera** (2013) Spatial and Temporal Activity Patterns of the Free-Living Giant Mole-Rat (*Fukomys mechowii*), the Largest Social Bathyergid. *PLoS ONE* 8(1): e55357. doi:10.1371/journal.pone.0055357.

Bednářová R, Knotková E, Sedláček F, Burda H & **R Šumbera** (2013) Vocalization of the giant mole-rat (*Fukomys mechowii*), subterranean rodent with the richest vocal repertoire Bioacoustics: 22(2):87-107

2012

Šklíba J, Mazoch V, Patzenhauerová H, Hrouzková E, Lövy M, Kott O, & **R Šumbera** (2012) A maze-lover's dream: Burrow architecture, natural history and habitat characteristics of Ansell's mole-rat (*Fukomys anselli*) Mammalian Biology 77(6): 420-427.

Bryja J, Mazoch V, Patzenhauerová H, Mateke C, Zima jr , Šklíba J & **R Šumbera** (2012) Revised occurrence of rodents from the tribe Praomyini (Muridae) in Zambia based on mitochondrial DNA analyses: implications for biogeography and conservation. Folia Zoologica 61(3-4):270-287.

Zemanová M, **Šumbera R** & J. Okrouhlík Poikilotermic traits in Mashona mole-rats (*Fukomys darlingi*). Reality or myth? Journal of Thermal Biology 37(7):485-489.

Lövy M, Šklíba J, Burda H, Chitaukali WN & **R Šumbera** (2012) Ecological characteristics in habitats of two African mole-rat species with different social systems in an area of sympatry: implications for the evolution of mole-rat sociality Journal of Zoology 286(2): 145-153.

Šumbera R, Mazoch V, Patzenhauerová H, Lövy M, Šklíba J, Bryja J & H. Burda (2012) Burrow architecture, family composition and habitat characteristics of the largest social African mole-rat; the giant mole-rat constructs really giant burrow systems Acta Theriologica 57(2): 121-130

2011

Šklíba J, **Šumbera R**, & M Vítámvás (2011) Resource characteristics and foraging adaptations in the silvery mole-rat (*Heliosciurus argenteocinereus*), a solitary Afrotropical bathyergid Ecological Research 26(6): 1081-1088

Frynta D, Petrů M, Šklíba J, **Šumbera R**, Krása A, & J. Marešová (2011) Cross-cultural agreement in perception of animal beauty: Boid snakes viewed by people from three continents Human Ecology 39(6): 829-834

Frynta D, Fraňková M, Čížková B, Skarlantová H, Galeštoková H, Průšová K, Šmilauer P & **R Šumbera**

(2011) Social and life history correlates of litter size in captive colonies of precocial spiny mice (Acomys) Acta Theriologica 56(3): 289-295

Dammann P, **Šumbera R**, Maßmann C, Scherag A & H Burda (2011) Extended longevity of reproductives appears to be common in Fukomys mole-rats (Rodentia, Bathyergidae) PLOS One e18757

Čížková B, **Šumbera R** & D Frynta (2011) A new member or an intruder: How do Sinai spiny mouse (Acomys dimidiatus) families respond to a male newcomer? Behaviour 148(8): 889-908.

Rodrigues HG, Marangoni P, **Šumbera R**, Tafforeau P, Wendelen W & L Viriot Continuous dental replacement in a hyper chisel-tooth digging rodent PNAS 2011 108 (42) 17355-17359

Zelová J, **Šumbera R**, Okrouhlík J, Šklíba J, Lovy M & H Burda (2011) A seasonal differences of daily energy expenditure in a free-living subterranean rodent, the silvery mole-rat (Heliophobius argenteocinereus, Bathyergidae) Comparative Biochemistry and Physiology A 158(1): 17-21

2010

Zelová J, **Šumbera R**, Okrouhlík J & H Burda (2010). Cost of digging is determined by intrinsic factors rather than by substrate quality in two subterranean rodent species. Physiology and Behaviour. 99(1): 54–58.

Nováková M, Vašáková B, Katalová H, Galeštoková K, Průšová K, Šmilauer P, **Šumbera R**, Frynta D (2010) Secondary sex ratios do not support maternal manipulation: extensive data from laboratory colonies of spiny mice (Muridae: Acomys). *Behavioural Ecology and Sociobiology* 64(3):371-379

Patzenhauerová H, Bryja J & **R Šumbera** (2010) Kinship structure and mating system in a solitary subterranean rodent, the silvery mole-rat *Behavioural Ecology and Sociobiology* 64(5): 757-767

Šklíba J, **Šumbera R** & WN Chitaukali (2010) What determines the way of deposition of excavated soil? *Acta Theriologica* 55(3): 271-277.

Kott O, **Šumbera R** & P Němec (2010) Light perception in two strictly subterranean rodents: Life in dark or blue? *PLOS One* 5(7) e118101

2009

-Seney ML, Kelly DA, Goldman BD, **Šumbera R** & Forger NG (2009) Social Structure Predicts Genital Morphology in African Mole-Rats. *PLoS ONE* 4(10): e7477.
doi:10.1371/journal.pone.0007477

-Svobodová P, Pejčoch M, Heroldová M, Pavlíček T, Nevo E, **Šumbera R** & Hubálek Z. (2009) Examination of rodents (Rodentia) for emmonsiosis in the Czech Republic, Israel and Africa. *Czech Mycology* 61(1): 99–106

- Šklíba J, **Šumbera R**, Chitaukali WN & H Burda (2009) Home-range dynamics in a solitary subterranean rodent. *Ethology*. 115(3):217-226.

- Knotková E, Veitl S, **Šumbera R**, Sedláček F, & H. Burda (2009):Vocalization of the silvery

mole-rat, comparison of vocal repertoire in subterranean rodents with different social systems. Bioacustics. 18(3): 241-257

- Barčiová L, Šumbera R, & H Burda (2009). Variation in the digging apparatus of the subterranean silvery mole-rat, *Heliophobius argenteocinereus* (Rodentia, Bathyergidae): the role of ecology and geography. Biological Journal of Linnean Society. 97(4): 822-831.

2008

- Šumbera R, Šklíba J, Elichová M, Chitaukali WN & H Burda (2008). Natural history and burrow system architecture of the silvery mole-rat from Brachystegia woodland. Journal of Zoology, London. 274(1): 77-84.

- Šklíba J, Šumbera R & WN Chitaukali (2008). Reactions to disturbances in the context of antipredatory behaviour in a solitary subterranean rodent Journal of Ethology 26(2): 249-254.

2007

- Říčánková V, Šumbera R & Sedláček F (2007) Familiarity and partner preferences in female common voles, *Microtus arvalis*. Journal of Ethology 25(1): 95-98

- Zelová J, Šumbera R, Sedláček F, Burda H (2007) Energetics in the solitary subterranean rodent, the silvery mole-rat, *Heliophobius argenteocinereus*, and the allometry of RMR in African mole-rats (Bathyergidae). Comparative Biochemistry and Physiology A 147(2):412-419

- Šklíba J, Šumbera R, Chitaukali WN & Burda H (2007) Determinants of daily activity patterns in the free living Afrotropical solitary subterranean rodent. Journal of Mammalogy 88(4): 1009-1016

- Šumbera R, Zelová J, Kunc P, Knížková I & H Burda (2007). Patterns of surface temperatures in two mole-rats (Bathyergidae) with different social systems as revealed by IR-thermography. Physiology and Behaviour. 92: 526–532

- Šklíba J, Šumbera R & P Benda (2007) Bocage's fruit bat (*Lissonycteris angolensis*), a new species for Malawi. *Nyala* 24:61-63

2006

- Grim T & Šumbera R (2006) A new record of the endangered white winged nightjar (*Eleothreptus candidans*) from Beni, Bolivia. *The Wilson Journal of Ornithology* 118(1): 109-112.

2005

- Modrý D, Jirků M & Šumbera R (2005) Three new species of Eimeria (Apicomplexa: Eimeridae) from the silvery mole-rats *Heliophobius argenteocinereus*, Peters, 1846 (Rodentia: Bathyergidae) from Malawi. *Journal of Parasitology*, 91(5), 1200–1203

- Burda H, Šumbera R, Chitaukali WN & Dryden GL (2005) Taxonomic status and remarks on ecology of the Malawian mole-rat *Cryptomys whytei* (Rodentia, Bathyergidae). *Acta Theriologica* 50(4): 529–536

- Hubálek Z, Burda H, Scharff A, Heth G, Nevo E, Šumbera R, Peško J & Zima J (2005) Emmonsiosis of subterranean rodents (Bathyergidae, Spalacidae) in Africa and Israel. *Medical Mycology* 43, 691-697

2004

- Šumbera R, Chitaukali WN, Elichová M, Kubová J, & Burda H (2004) Microclimatic stability in burrows of an Afrotropical solitary bathyergid rodent, the silvery mole-rat (*Heliophobius argenteocinereus*). *Journal of Zoology*, London 263: 409-416.

2003

- Šumbera R, Baruš V, & Tenora F (2003) Heavy metals in the silvery mole-rat, *Heliophobius argenteocinereus* (Bathyergidae, Rodentia) from Malawi. *Folia Zoologica* 52(2): 149-153

- Šumbera R, Burda H & Chitaukali, WN (2003) Reproductive biology of a solitary subterranean bathyergid rodent, the silvery mole-rat (*Heliophobius argenteocinereus*). *Journal of Mammalogy* 84(1), 278-287

- Tenora F, Baruš V, Prokeš M, Šumbera R, & Koubková B (2003) Helminths parasitizing the silvery mole-rat, *Heliophobius argenteocinereus* (Rodentia: Bathyergidae) from Malawi. *Helminthologia* 40(3): 153-160

- Šumbera R, Burda H, Chitaukali WN, & Kubová J (2003) The silvery mole-rats (*Heliophobius argenteocinereus*, Bathyergidae) change their burrow architecture seasonally. *Naturwissenschaften* 90(8): 370-373

- Baruš V, Tenora F & Šumbera R (2003) Relative concentrations of four heavy metals in the parasites *Protospirura muricola* (Nematoda) and *Inermicapsifer arvicanthidis* (Cestoda) in their definitive host silvery mole-rat (*Heliophobius argenteocinereus*: Rodentia). *Helminthologia* 40(4): 227-232.

2000

- Koudela B, Šumbera R, & Sedláček F (2000): *Eimeria burdai* sp. n. (Apicomplexa: Eimeriidae), a new parasite species from subterranean silvery mole-rat, *Heliophobius argenteocinereus*, Peters, 1846. *Folia Parasitologica* 47: 97-99.1999

Populární články 2006

- Šumbera R a Robovský J (2006) Pohaslá sláva savců. *Vesmír* 85: 557-559

2005

- Šumbera R a Grim T (2005). Pantanal – na otevřené scéně, *Živa*. 53(2): 93–96

- Šumbera R. (2005) Pantanal dvou tváří, Lidé a Země. 54(02): 38-43

2004

- Grim T a Šumbera R (2004). Solné pouště Bolívie – Na Marsu nebo na Zemi? Vesmír XI.

2003

- Šumbera R. (2003) Sanové v Dračích horách. Země světa. IX. 27-29.

2002

- Šumbera R. (2002) Savci. Vyřešeno? Nové kapitoly o starých savčích událostech. Vesmír. 81(6): 318-325

Kapitoly v monografiích

2007

- Burda H, Šumbera R, & Begall S. (2007) Microclimate in burrows of subterranean rodents – revisited. Pp. 21-34 In Begall S, Burda H. and Schleich C. (Eds.) News from underground. Springer-Verlag.

- Šumbera R, Chitaikali WN, & Burda H(2007) Biology of the silvery mole-rat (*Heliophobius argenteocinereus*)Why study a neglected subterranean rodent species? Pp. 221-236. In Begall S, Burda H. and Schleich C. (Eds.) News from underground. Springer-Verlag

2001

- Šumbera R (2001) The mating behaviour of the silvery mole-rat. Pp. 353–364 In: African small mammals (C. Denys, L. Granjon, and A. Poulet, eds.). Collection colloques et séminaires, IRD Editions, Paris. 2000

